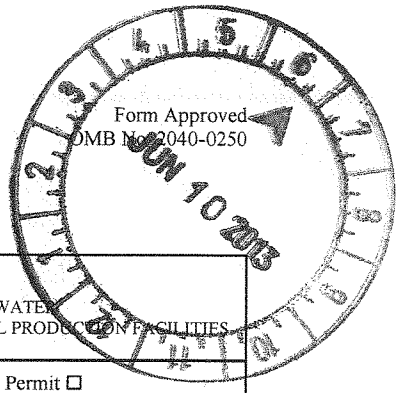

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

FORM 2B NPDES	**EPA**	U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES

I. GENERAL INFORMATION Applying for: Individual Permit ☒ Coverage Under General Permit ☐

A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
☒ 1. Concentrated Animal Feeding Operation (complete items B, C, D, and section II) ☐ 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Owner/or Operator Name: Murphy-Brown LLC Telephone: (804) 834-2109 Address: P.O. Box 1240 Facsimile: (804) 834-8926 City: Waverly State: VA Zip Code: 23890	☒ 1. Existing Facility ☐ 2. Proposed Facility

D. FACILITY INFORMATION

Name: Murphy-Brown LLC Farm 13 and 14 Telephone: (804) 834-2109

Address: 34373 Munford Lane Facsimile: (804) 834-8926

City: Wakefield State: Virginia Zip Code: 23890

County: Sussex Latitude: 36 deg. 55 min. 43 sec. Longitude: 77 deg. 02 min. 13 sec.

If contract operation: Name of Integrator: N/A

Address of Integrator: N/A

II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS

A. TYPE AND NUMBER OF ANIMALS

1. TYPE	2. ANIMALS: NO. IN OPEN CONFINEMENT	2. ANIMALS: NO. HOUSED UNDER ROOF
☐ Mature Dairy Cows		
☐ Dairy Heifers		
☐ Veal Calves		
☐ Cattle (not dairy or veal calves)		
☒ Swine (55 lbs. or over)		14,700
☒ Swine (under 55 lbs.)		6,300
☐ Horses		
☐ Sheep or Lambs		
☐ Turkeys		
☐ Chickens (Broilers)		
☐ Chickens (Layers)		
☐ Ducks		
☐ Other: Specify _____		
3. TOTAL ANIMALS		21,000

B. MANURE, LITTER, AND/OR WASTEWATER PRODUCTION AND USE

1. How much manure, litter, and wastewater is generated annually by the facility? N/A tons 20.4M gallons
2. If land applied how many acres of land under the control of the applicant are available for applying the CAFOs manure/litter/wastewater? 188 acres
3. How many tons of manure or litter, or gallons of wastewater produced by the CAFO will be transferred annually to other persons? 0 tons 0 gallons

[redacted]

C. ☒ TOPOGRAPHIC MAP

D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY

1. Type of Containment	Total Capacity (in gallons)
☐ Lagoon	
☐ Holding Pond	
☐ Evaporation Pond	
☐ Other: Specify _____	

2. Report the total number of acres contributing drainage: 188 acres

3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)
☒ Anaerobic Lagoon	180	58,870,011 gals.
☐ Storage Lagoon		
☐ Evaporation Pond		
☐ Aboveground Storage Tanks		
☐ Belowground Storage Tanks		
☐ Roofed Storage Shed		
☐ Concrete Pad		
☐ Impervious Soil Pad		
☐ Other: Specify _____		

E. NUTRIENT MANAGEMENT PLAN

Note: Effective February 27, 2009, a permit application is not complete until a nutrient management plan is submitted to the Permitting Authority.

1. Please indicate whether a nutrient management plan has been included with this permit application. ☒ Yes ☐ No

2. If no, please explain:

3. Is a nutrient management plan being implemented for the facility? ☒ Yes ☐ No

4. The date of the last review or revision of the nutrient management plan. Date: _____

5. If not land applying, describe alternative use(s) of manure, litter, and/or wastewater:

F. LAND APPLICATION BEST MANAGEMENT PRACTICES

Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:

☒ Buffers ☒ Setbacks ☒ Conservation tillage ☐ Constructed wetlands ☐ Infiltration field ☒ Grass filter ☐ Terrace

Form Approved
OMB No. 2040-0250

III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS

A. For each outfall give the maximum daily flow, maximum 30-day flow, and the long-term average flow.				B. Indicate the total number of ponds, raceways, and similar structures in your facility.		
1. Outfall No.	2. Flow (*gallons per day*)			1. Ponds	2. Raceways	3. Other
	a. Maximum. Daily	b. Maximum 30 Day	c. Long Term Average	C. Provide the name of the receiving water and the source of water used by your facility.		
				1. Receiving Water	2. Water Source	

D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.

1. Cold Water Species			2. Warm Water Species		
a. Species	b. Harvestable Weight *(pounds)*		a. Species	b. Harvestable Weight *(pounds)*	
	(1) Total Yearly	(2) Maximum		(1) Total Yearly	(2) Maximum

E. Report the total pounds of food during the calendar month of maximum feeding.	1. Month	2. Pounds of Food

IV. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Name and Official Title (*print or type*)	B. Telephone (_____) _____
C. Signature	D. Date Signed 4-8-13

INSTRUCTIONS

GENERAL

This form must be completed by all applicants who check "yes" to Item II-B in Form 1. Not all animal feeding operations or fish farms are required to obtain NPDES permits. Exclusions are based on size and whether or not the facility discharges proposed to discharge. *See* the description of these exclusions in the CAFO regulations at 40 CFR 122.23.

For aquatic animal production facilities, the size cutoffs are based on whether the species are warm water or cold water, on the production weight per year in harvestable pounds, and on the amount of feeding in pounds of food (*for cold water species*). Also, facilities which discharge less than 30 days per year, or only during periods of excess runoff (*for warm water fish*) are not required to have a permit.

Refer to the Form 1 instructions to determine where to file this form.

Item I-A

See the note above to be sure that your facility is a "concentrated animal feeding operation" (CAFO).

Item I-B

Use this space to give owner/operator contact information.

Item I-C

Check "proposed" if your facility is not now in operation or is expanding to meet the definition of a CAFO in accordance with the CAFO regulations at 40 CFR 122.23.

Item I-D

Use this space to give a complete legal description of your facility's location including name, address, and latitude/longitude. Also, if a contract grower, the name and address of the integrator.

Item II

Supply all information in item II if you checked (1) in item I-A.

Item II-A

Give the maximum number of each type of animal in open confinement or housed under roof (either partially or totally) which are held at your facility for a total of 45 days or more in any 12 month period. Provide the total number of animals confined at the facility.

Item II-B

Provide the total amount of manure, litter, and wastewater generated annually by the facility. Identify if manure, litter, and wastewater generated by the facility is to be land applied and the number of acres, under the control of the CAFO operator, suitable for land application. If the answer to question 3 is yes, provide the estimated annual quantity of manure, litter, and wastewater that the applicant plans to transfer off-site.

Item II-C

Check this box if you have submitted a topographic map of the entire operation, including the production area and land under the operational control of the CAFO operator where manure, litter, and/or wastewater are applied with Form 1.

Item II-D

1. Provide information on the type of containment and the capacity of the containment structure (s).
2. The number of acres that are drained and collected in the containment structure (s).
3. Identify the type of storage for the manure, litter, and/or wastewater. Give the capacity of this storage in days.

Item II-E

Provide information concerning the status of submitting a nutrient management plan for the facility to complete the application. In those cases where the nutrient management plan has not been submitted, provide an explanation. If not land applying, describe the alternative uses of the manure, litter, and wastewater (*e.g.*, composting, pelletizing, energy generation, etc.).

Item II-F

Check any of the identified conservation practices that are being implemented at the facility to control runoff and protect water quality.

Item III

Supply all information in Item III if you checked (2) in Item I-A.

Item III-A

Outfalls should be numbered to correspond with the map submitted in Item XI of Form 1. Values given for flow should be representative of your normal operation. The maximum daily flow is the maximum measured flow occurring over a calendar day. The maximum 30-day flow is the average of measured daily flow over the calendar month of highest flow. The long-term average flow is the average of measure daily flows over a calendar year.

Item III-B

Give the total number of discrete ponds or raceways in your facility. Under "other," give a descriptive name of any structure which is not a pond or a raceway but which results in discharge to waters of the United States.

Item III-C

Use names for receiving water and source of water which correspond to the map submitted in Item XI of Form 1.

Item III-D

The names of fish species should be proper, common, or scientific names as given in special Publication No. 6 of the American Fisheries Society. "A List of Common and Scientific Names of Fishes from the United States and Canada." The values given for total weight produced by your facility per year and the maximum weight present at any one time should be representative of your normal operation.

Item III-E

The value given for maximum monthly pounds of food should be representative of your normal operation.

Item IV

The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(C)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application... shall upon conviction, be punished by a fine of no more than $10,000 or by imprisonment for not more than six months, or both."

Federal regulations require the certification to be signed as follows:

A. For corporation, by a principal executive officer of at least the level of vice president.

B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

C. For a municipality, State, federal, or other public facility, by either a principal executive officer or ranking elected official.

Paper Reduction Act Notice

The public reporting and recordkeeping burden for this collection of information is estimated to average 9.5 hours per response. The public reporting and recordkeeping burden for development of the nutrient management plan to be submitted with the form is estimated to average 58 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
CONCENTRATED ANIMAL FEEDING OPERATIONS

PERMIT APPLICATION ADDENDUM

PLEASE TYPE OR PRINT ALL INFORMATION - ALL PARTS OF THIS FORM MUST BE COMPLETED

For DEQ Use Only:
Complete: Yes ☐ No ☐
Initials: _____
Date: _____

I. CONTACT INFORMATION

Owner Name:	Murphy-Brown LLC				
Mailing Address:	P.O. Box 1240				
City:	Waverly	State:	Virginia	Zip Code:	23890
E-Mail Address:	robritt@murphybrownllc.com				
Business Phone:	(804) 834-2109	Mobile Phone:	(804) 731-9603	Home Phone:	
Best day of the week & time to contact the applicant:	Day(s): Mon.- Fri.		Time(s): 8:00am – 5:00pm		☐ AM ☐ PM

II. FARM/FACILITY INFORMATION

Farm/Facility Name:	Murphy-Brown LLC Farms 13 and 14		
Location:	34373 Munford Lane, Wakefield, VA, 23890		
Does Farm/Facility have an existing permit?	X Yes ☐ No	If yes, Permit Number:	VPA00573

III. FARM OPERATING MANUAL

A. Operating Manual been developed for this facility? Has a Farm ☐ Yes X No

B. If yes, provide the date of the last review/revision of the Farm Operating Manual. Date:_____

C. A copy of the Manual (if already developed) is attached: ☐ Yes ☐ No.
The attached copy may be a hard copy or an electronic copy.

IV. GROUNDWATER MONITORING PLAN

A. If the facility has an existing permit, is groundwater monitoring required? X Yes ☐ No

B. If yes, has a Groundwater Monitoring Plan been developed for this facility? ☐ Yes X No ? N/A

C. If yes, provide the date of the last review/revision of the Groundwater Monitoring Plan. Date:_____

D. If no, please explain: A geophysical evaluation is being conducted to establish a framework for the Ground Water Monitoring Plan.

E.

A copy of the Plan (if already developed) is attached: ? Yes X No ? N/A
The attached copy may be a hard copy or an electronic copy.

V. DISCHARGE POINT AND BEST MANAGEMENT PRACTICES (BMPs) RELATED TO A DISCHARGE POINT

For each discharge point, provide the following information in the table below:

a) a descriptive name of the discharge point;
b) the latitude and longitude of its location;
c) the name of the nearest potential receiving water;
d) all areas contributing manure, litter, process wastewater, or storm water from the facility; and
e) the treatment received or BMPs utilized, installed or constructed prior to the discharge point.

For DEQ Use: I.D. Number	Discharge Point	Latitude	Longitude	Name of Nearest Potential Receiving Water	Area Contributing Flow	Treatment or BMPs
	1	36°56'32.41" N	77° 02'27.43" W	Unnamed tributary to Airfield Pond – Mill Run	Production Area – Farm 13	Secondary Containment
	2	36°56'34.95" N	77°2'15.25" W	Unnamed tributary to Airfield Pond – Mill Run	Production Area – Farm 13	Secondary Containment
	3	36°55'53.98" N	77°2'04.87" W	Unnamed tributary to Seacorrie Swamp	Production Area – Farm 14	Secondary Containment
	4	36°55'45.65" N	77°2'03.30" W	Unnamed tributary to Seacorrie Swamp	Production Area – Farm 14	Secondary Containment

VI. BEST MANAGEMENT PRACTICES (BMPs)

A. BMPs are utilized, X Yes ☐ No

installed or constructed for each of the areas listed in Section V above.

B.

f no, please explain: A geophysical evaluation of the site is being conducted to establish a framework for a new Ground Water Monitoring Plan.

C. Attach to this Addendum, a description of the BMPs listed above in Section V or a copy of the Farm Operating Manual (if already developed). *The attached copy may be a hard copy or an electronic copy.*

VII. OTHER ATTACHMENTS (see instructions for requirements)

A. The completed and signed Local Government Ordinance Form (LGOF) is attached: ? Yes ? No X On file with DEQ

B. A copy of the Department of Conservation and Recreation (DCR) Nutrient Management Plan (NMP) approval letter is attached: X Yes ? No

VIII. CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: Kraig Westerbeek Official Title: *Assistant Vice President of Environment, Health, & Safety*

Signature: Date: 5/14/2014

ADDITIONAL INFORMATION AND INSTRUCTIONS
VPDES CAFO PERMIT APPLICATION ADDENDUM

GENERAL INFORMATION

This permit application addendum must be completed and submitted when an owner of a concentrated animal feeding operation makes application to the Department of Environmental Quality for a Virginia Pollutant Discharge Elimination (VPDES) Permit. Contact the nearest DEQ regional office if you have questions about completing this form. Please type or print all information. All parts of this form must be completed.

DEFINITION OF TERMS

Best Management Practice (BMP): means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to surface waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Process Wastewater: Process wastewater from an AFO means water directly or indirectly used in the operation of the AFO for any of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of the (confined) animals; or dust control. Process wastewater from an AFO also includes any water that comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs or bedding.

Production Area: means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage areas include but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions that separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

Storm Water: means storm water run-off, snow melt run-off, and surface run-off and drainage.

APPLICATION ADDENDUM INSTRUCTIONS

I. CONTACT INFORMATION

Give the name, mailing address, telephone numbers and e-mail address (if available) of the person to whom this permit will be issued. Please provide the best day of the week and time for DEQ to make contact with the owner during regular working hours.

II. FARM/FACILITY INFORMATION

Give the name of the farm or facility. Give the physical location for the animal feeding operation other than the owner's mailing address (e.g. Rt. 653, 1 mile west of Rt. 702). List the number of any expiring or currently effective permits issued to the concentrated animal feeding operation under the VPA or VPDES permit program.

III. FARM OPERATING MANUAL

Indicate if a Farm Operating Manual has been developed for this facility. If yes, provide the date of the last review/revision of the Farm Operating Manual. If the Manual has already been developed then indicate whether a copy of the Manual is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy.*

Permit requirements for development of a manual:
The Permittee shall develop and submit a Farm Operating Manual for approval by the Department within 90 days of the effective date of this permit. The Farm Operating Manual shall include at a minimum the following information:

a. identification of land features or structures where storm water will likely leave the production area(s) and enter surface waters of the state;

b. identification of land features or structures in the land application area(s) which will increase the risk of nitrogen and phosphorus transport to surface waters of the state; land features or structures include tile lines, pipes or ditches;

c. practices and procedures which will be followed to ensure that the waste storage facilities are designed and operated in accordance with the permit;

d. practices, procedures and applicable best management practices (BMPs) which will be utilized to ensure compliance with the requirements of this permit including but not limited to the following:

(1) if applicable, identification of the location of BMP(s) that are installed or will be installed at the CAFO facility, for BMP(s) that will be installed include the expected timeframe for installation;

(2) specification of appropriate maintenance that will be performed for each BMP(s);

(3) specification of the steps that will be taken in the event that a BMP(s) is found deficient,

(a) as a result of the visual inspections as required by the permit, or

(b) as a result of other routine inspections, as prescribed by the Farm Operating Manual, of BMP(s) utilized or installed in accordance with the permit.

The steps shall include any actions that will be taken to correct deficiencies in accordance with the permit.

e. practices and procedures which will be followed to ensure that all equipment needed for the proper operation of the permitted facilities is maintained in good working order, including but not limited to the following:

(1) retention of the equipment manufacturer's operation and maintenance manuals or other reference source to allow for timely maintenance and prompt repair of equipment when appropriate; and

(2) specification of the frequencies of inspections in order to detect leaks on equipment used for liquid manure handling and land application; and

f. an emergency plan which includes appropriate procedures for employees to follow in case of an emergency such as; an unauthorized discharge of manure, poultry waste, from the production area or catastrophic animal mortality. The emergency plan must include appropriate information for assistance with the particular emergency and must include contact information for local, state and federal agencies required to be notified in the case of any of the above mentioned events.

The Permittee shall operate the CAFO facility in accordance with the approved Farm Operating Manual which becomes an enforceable part of the permit. Any changes in those practices and procedures shall be documented and submitted to the Department for staff approval within 90 days of the effective date of the changes. The existing manual shall continue to be implemented until the revised manual is approved by the Department. Upon approval of submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the approved manual shall be deemed a violation of the permit.

IV. GROUNDWATER MONITORING PLAN

If the facility has an existing permit, indicate whether groundwater monitoring is required. If groundwater monitoring is required, indicate if a groundwater monitoring plan has been developed for this facility. If yes, provide the date of the last review/revision of the plan. If a plan has not been developed, please explain why the plan has not been developed. If the plan has already been developed then indicate whether a copy of the plan is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy.*

Permit requirements for development of a plan:
The Permittee shall develop and submit a Groundwater Monitoring Plan for approval by the Department within 90 days of the effective date of this permit. The Groundwater Monitoring Plan shall include at a minimum the following information:

(1) Procedures to ensure appropriate methods and practices are being used when monitoring groundwater, and

(2) Procedures to ensure appropriate measures are taken where monitoring results demonstrate potential noncompliance with the permit and the approved monitoring plan.

V. DISCHARGE POINT AND BEST MANAGEMENT PRACTICES (BMPs) RELATED TO A DISCHARGE POINT

For each discharge point, provide the following information in the table below:

a) a descriptive name of the discharge point;
b) the latitude and longitude of its location;
c) the name of the nearest potential receiving water;
d) all areas contributing manure, litter, process wastewater, or storm water from the facility; and
e) the treatment received or BMPs utilized, installed or constructed prior to the discharge point.

VI. BEST MANAGEMENT PRACTICES (BMPs)

If the facility has an existing permit, indicate whether groundwater monitoring is required. If groundwater monitoring is required, indicate if a groundwater monitoring plan has been developed for this facility. If yes, provide the date of the last review/revision of the plan. If a plan has not been developed, please explain why the plan has not been developed. If the plan has already been developed then indicate whether a copy of the plan is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy*

VII. OTHER ATTACHMENTS

Local Government Ordinance Form (LGOF)

State Law requires that the owner of any proposed pollutant management activities or those which have not previously been issued a valid VPA or VPDES permit must attach to the permit application, the completed LGOF. The LGOF is the notification from the governing body of the county, city or town where the operation is located that the operation is consistent with all ordinances adopted pursuant to Chapter 22 (§ 15.2-2200 et seq.) of Title 15.2 of the Code of Virginia.

Nutrient Management Plan (NMP) Approval Letter

A copy of the letter from the Virginia Department of Conservation and Recreation (DCR) approving the operation's NMP and certifying that the NMP was developed by a certified nutrient management planner in accordance with §10.1-104.2 of the Code of Virginia must be attached to the permit application. However, if a current NMP approval letter is on file at the DEQ regional office then it is not necessary to attach the NMP approval letter.

VIII. CERTIFICATION STATEMENT

The Certification must bear an original signature in ink, photocopies are not acceptable. State regulations require the permit application to be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

BMP Description – Secondary Containment

The BMP is a grass covered earthen containment structure that collects runoff from the production area. The structure has a manually operated value that is maintained as normally closed. The BMP is inspected daily by the farm production staff. Once water collects in the structure it is visually inspected to ensure it does not contain any contaminants and it released. The BMP has an emergency spillway for structural integrity during extreme rainfall events.

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT CONCENTRATED ANIMAL FEEDING OPERATION

Permit Application Addendum

Murphy-Brown LLC
Farms 13 and 14
Permit VPA 00573

VIII.B MORTALITY DISPOSAL METHODS

The mortality disposal method utilized for this site is rendering. Mortality is removed from the Barn and placed in a mortality ben for pickup and removal from the site. The mortality ben is a synthetic container with a lid. The dead box is picked up and emptied daily by truck, the contents of the box are delivered to the rendering facility. In the event unforeseen circumstances prevent daily pick up of mortality, the mortality is held inside the barn until daily removal can resume.

XI. CHEMICAL HANDLING METHODS

Murphy-Brown LLC maintains a list of all chemicals used on its facilities. The list of hazardous chemical used by Murphy-Brown is maintained by a third party contractor. The contractor provides emergency information for all products used by the company. This includes Material Safety Data Sheets outlining the manufactures guidelines for handling, storage, and disposal. Information is available 24 hours a day for all worksites within the Murphy-Brown organization. Employees are trained to handle, store, and dispose of chemicals pre the manufactures label. Chemicals are not disposed in any manure, process waste water or storm water.

Douglas W. Domenech
Secretary of Natural Resources

David A. Johnson
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street
Richmond, Virginia 23219-2010
(804) 786-1712

July 13, 2012

Mr. R.O. Britt
Murphy-Brown Farm 13 & 14
P.O. Box 1240
Waverly, VA 23890

Dear Mr. Britt,

Your nutrient management plan (NMP), dated 6/14/2012, for a 21000 head swine operation has been approved by the Virginia Department of Conservation and Recreation for coverage under a Virginia Pollution Abatement (VPA) or Virginia Pollutant Discharge Elimination System (VPDES) permit. Your NMP was written by a nutrient management planner certified by the Virginia Department of Conservation and Recreation.

A copy of this letter must be kept with your nutrient management plan. A copy of this letter and a copy of the approved plan must be sent to the Piedmont Regional Office of the Virginia Department of Environmental Quality (DEQ).

It should be noted that this plan expires 6/30/2015. We recommend the process of revising this nutrient management plan begin at least six months prior to the expiration date.

If you have any questions concerning this letter, please feel free to contact me at bobby.long@dcr.virginia.gov or (434) 547-8172.

Sincerely,

Bobby Long

Bobby Long
Nutrient Management Coordinator – Animal Waste
Division of Stormwater Management

cc: Tim Sexton, DCR Nutrient Management Program Manager
R.O. Britt
DEQ Piedmont Regional Office

NUTRIENT MANAGEMENT PLAN IDENTIFICATION

Operator
Murphy-Brown LLC
434 East Main Street
Waverly, VA 23890
(804) 834-2109

Integrator:*None*

Farm Coordinates
Easting: 318600, Northing: 408990, zone: 17

Watershed Summary
watershed: CU45
county: Sussex

Nutrient Management Planner
R.O. Britt
434 East Main Street
Waverly, VA 23890

Certification Code: 571

Acreage Use Summary
Total Acreage in this plan: 179.8

Cropland:	70.2
Hayland:	109.6
Pasture:	0.
Specialty:	0.

Livestock Summary

Beef Cattle	0
Dairy Cattle	0
Poultry	0
Swine	21000
Other	0

Manure Production Balance

kgals	0.	37336.3	0.	39162.1	-1825.8
tons	0.	0.	0.	0.	0.

Plan written 6/14/2012
Valid until 6/30/2015

Signature: _____ 7/12/2012
Planner **date**

Nutrient Management Plan Balance Sheet
(Summer, 2012-Summer, 2015)
Murphy Brown LLC - Farms 13 and 14
Planner: R.O. Britt (cert. No. 571)

Tract: 1801 **Location: Sussex**

(N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes	
1/A1(N)	44/44	2012	Sorghum (grain)	90-0-0	0/0	107.k Swine (Su)	N/A	89-54-517	0-(55)-(515)	N/A		1,2,3,4	
			Rye (cover)	0-0-0	0/0				0-(55)-(515)	N/A			
		2013	Sorghum (grain)	90-0-0	0/5	101.k Swine (Sp)	N/A	84-50-488	0-(105)-(1005)	N/A		3,2,1,4	
			Rye (cover)	0-0-0	0/0				0-(105)-(1005)	N/A			
		2014	Corn (grain)	80-0-0	0/7	89.k Swine (Sp)	N/A	74-44-430	0-(150)-(1435)	N/A		3,2,1,4	
			Wheat (grain)	100-0-0	0/13	105.k Swine (Fa)	N/A	88-52-507	0-(200)-(1940)	N/A		2,5,6,7,1	
		2015	... ...	-- -- --									
			Sorghum (grain)	90-0-0	0/0	107.k Swine (Su)	N/A	89-54-517	0-(255)-(2455)	N/A		3,2,4,1	
1/A2(N)	44/44	2012	Fescue grass hay mt.	160-0-0	0/0	191.k Swine (Su)	N/A	159-96-923	0-(95)-(925)	N/A		1	
		2013	Sorg. sudan, Millet	160-0-0	0/10	100.k Swine (Sp)	N/A	84-50-483	0-(185)-(1795)	N/A		8	
						80.1k Swine (Su)	N/A	67-40-387					
			Fescue hay estb.	0-0-0	0/0				0-(185)-(1795)	N/A			
		2014	Fescue grass hay mt.	160-0-0	0/13	175.k Swine (Sp)	N/A	146-88-845	0-(270)-(2640)	N/A		1	
		2015	... ...	160-0-0	0/14	174.k Swine (Sp)	N/A	145-87-840	0-(355)-(3480)	N/A		1	
5/D(N)	4/4	2012	Fescue grass hay mt.	240-50-0	0/0	287.k Swine (Su)	N/A	240-144-1386	0-(95)-(1385)	N/A		1	
		2013	Sorg. sudan, Millet	160-50-0	0/14	87.1k Swine (Sp)	N/A	73-44-421	0-(130)-(2225)	N/A		8	
						87.2k Swine (Su)	N/A	73-44-421					
			Fescue hay estb.	40-75-0	0/0	47.6k Swine (Fa)	N/A	40-24-230	0-(80)-(2455)	N/A		8	
		2014	Fescue grass hay mt.	240-50-0	0/17	263.k Swine (Sp)	N/A	220-132-1270	5-(160)-(3725)	N/A		1	
		2015	... ...	240-50-0	0/20	261.k Swine (Sp)	N/A	218-130-1261	0-(240)-(4985)	N/A		1	
6/E(N)	7/7	2012	Fescue grass hay mt.	160-50-0	0/0	191.k Swine (Su)	N/A	159-96-923	0-(45)-(925)	N/A		1	
		2013	Sorg. sudan, Millet	160-50-0	0/10	90.k Swine (Sp)	N/A	75-45-435	0-(85)-(1795)	N/A		8	
						90.k Swine (Su)	N/A	75-45-435					
			Fescue hay estb.	40-75-0	0/0	47.8k Swine (Fa)	N/A	40-24-231	0-(35)-(2025)	N/A			
		2014	Fescue grass hay mt.	160-50-0	0/15	175.k Swine (Sp)	N/A	146-88-845	0-(70)-(2870)	N/A		1	
		2015	... ...	160-50-0	0/15	174.k Swine (Sp)	N/A	145-87-840	0-(105)-(3710)	N/A		1	

Tract: 1801 **Location: Sussex**

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes	
1/F(N)	9/9	2012	Fescue grass hay mt.	240-40-0	0/0	287.k Swine (Su)	N/A	240-144-1386	0-(105)-(1385)	N/A		1	
		2013	... ...	240-40-0	0/14	270.k Swine (Sp)	N/A	225-135-1304	0-(200)-(2690)	N/A		1	
		2014	... ...	240-40-0	0/20	263.k Swine (Sp)	N/A	220-132-1270	0-(290)-(3960)	N/A		1	
		2015	... ...	240-40-0	0/21	261.k Swine (Sp)	N/A	218-130-1261	0-(380)-(5220)	N/A		1	
11/G1(N)	37/37	2012	Bermudagrass hay mt.	270-0-0	0/0	323.k Swine (Su)	N/A	270-162-1560	0-(160)-(1560)	N/A		1	
		2013	... ...	270-0-0	0/16	303.8k Swine (Sp)	N/A	254-152-1467	0-(310)-(3025)	N/A		8	
			Barley (silage)	70-0-0	0/0	41.6k Swine (Fa)	N/A	35-21-201	0-(355)-(3460)	N/A		8,9	
						48.3k Swine (Wi)	N/A	35-24-233				8,9	
		2014	Bermudagrass hay mt.	270-0-0	0/29	119.k Swine (Su)	N/A	99-60-575	140-(415)-(4035)	N/A		2,3,1	
			Barley (silage)	70-0-0	0/0	41.6k Swine (Fa)	N/A	35-21-201	0-(460)-(4470)	N/A		8,9	
						48.3k Swine (Wi)	N/A	35-24-233					
		2015	Bermudagrass hay mt.	270-0-0	0/26	146.3k Swine (Sp)	N/A	122-73-707	0-(605)-(5885)	N/A		8	
						146.4k Swine (Su)	N/A	122-73-707					
11/G2(N)	26/26	2012	Sorghum (grain)	100-0-0	0/0	119.k Swine (Su)	N/A	99-60-575	0-(60)-(575)	N/A		2,3,4,1	
			Rye (cover)	0-0-0	0/0				0-(60)-(575)	N/A			
		2013	Corn (grain)	120-0-0	0/6	136.k Swine (Sp)	N/A	114-68-657	0-(130)-(1230)	N/A		2,3,4,1	
			Wheat (grain)	100-0-0	0/14	102.k Swine (Fa)	N/A	85-51-493	0-(180)-(1725)	N/A		2,5,7,6,1	
		2014	... ...	-- -- --									
			Sorghum (grain)	100-0-0	0/0	119.k Swine (Su)	N/A	99-60-575	0-(240)-(2300)	N/A		2,3,4,1	
			Rye (cover)	0-0-0	0/0				0-(240)-(2300)	N/A			
		2015	Corn (grain)	120-0-0	0/12	129.k Swine (Sp)	N/A	108-64-623	0-(305)-(2925)	N/A		2,3,1,4	
10/H(N)	10/10	2012	Bermudagrass hay mt.	235-50-0	0/0	281.k Swine (Su)	N/A	235-140-1357	0-(90)-(1355)	N/A			
			Barley (silage)	70-30-0	0/0	83.k Swine (Fa)	N/A	69-42-401	0-(100)-(1755)	N/A		1	
		2013	Bermudagrass hay mt.	235-50-0	0/0	281.k Swine (Su)	N/A	235-140-1357	0-(190)-(3110)	N/A			
			Barley (silage)	70-0-0	0/0	83.k Swine (Fa)	N/A	69-42-401	0-(230)-(3510)	N/A		1	
		2014	Bermudagrass hay mt.	235-50-0	0/0	281.k Swine (Su)	N/A	235-140-1357	0-(320)-(4865)	N/A			
			Barley (silage)	70-0-0	0/0	83.k Swine (Fa)	N/A	69-42-401	0-(360)-(5265)	N/A		1	
		2015	Bermudagrass hay mt.	235-50-0	0/0	281.k Swine (Su)	N/A	235-140-1357	0-(450)-(6620)	N/A			

Commercial Application Methods:

br - Broadcast ba - Banded sd - Sidedress

Notes:

1 The maximum waster water application rate per event for this field is 0.9 in./ac. or 24,438.6 gals./ac. Sufficient drying time will be allowed between subsequent irrigation events so that field capacity is not exceeded due to irrigation events.
2 Commercial fertilizer applications may be used in addition to or in place of organic fertilizer applicatins to suplament crop needs and meet yield goals. Total nutrient application shall not exceed crop needs.
3 Band nitrogen with planter
4 Apply side dress nitrogen when crop is 12 to 24 inches tall. A pre-side dress tissue sample is reccomended prior to nutrient application.
5 Topdress during Fall
6 Topdress during early Spring
7 For intensive management of wheat, follow guidance fron Standards and Criteria pages 72-76. (pages are attached).
8 The maximum waste water application rate per event for this field is 0.9 in./ac. or 24,430 gals./ac. Sufficient drying time will be allowed between subsequent irrigation events so that field capacity is not exceeded due to irrigation events.
9 Small grain nutrient applications should be split so that approximately half the nutrients are applied in the Fall/early Winter and the remaining half in the early Spring.

Murphy Brown LLC - Farms 13 and 14 Narrative

This nutrient management plan is an update for Murphy-Brown LLC farm 8513 and 8514; covered by permit number VPA00573. The farms are located southwest of Wakefield at the intersections of Rt. 620 and Rt. 622 in Sussex County.

These farms have been converted from two 1000 sow farrow to finish swine facilities to currently two 10,500 wean to finish facilities. These farms are operated by Murphy-Brown LLC. The swine waste produced on this site is stored and treated by a two stage anaerobic lagoon system. There are two primary lagoons and on secondary lagoon on this site. Under normal circumstances, effluent from the second stage lagoon system is land applied with irrigation equipment. The irrigation on this site is conducted through a combination of pivots, hard hose travelers and occasionally an aerway field applicator. In order to balance effluent utilization, effluent from any lagoon may be applied to any field. Analysis are taken of the effluent in all three of the lagoons on this facility. The appropriate analysis or the lagoon that effluent is being irrigated from will be used to determine nutrient application amounts. There are approximately 187.8 acres of hay and row crop land available for land application.

The crop rotation varies between fields. Field A1 is in corn, wheat, sorghum and cover crop rotation. Fields A2, D, E, F, and G2 are in fescue hay. Fields G2, C and H are in a Bermuda, small grain hay rotation.

Commercial fertilizer may be used to supplement crop nutrient needs if waste is insufficient to meet the agronomic requirements of the crop. The plan is written with the assumption that there will be sufficient effluent available to meet the agronomic needs of the crops, however if there is not sufficient volume of effluent available to meet the agronomic needs commercial fertilizer will be incorporated in the application records for the farm and will not exceed the nutrient recommendations in this plan. Any commercial fertilizer application will be incorporated in the application records for the farm. The combination of commercial fertilizer and swine effluent application shall not exceed the nutrient recommendations in this plan.

Revision 3/29/2013
R.O. Britt Cert. 571

This revision reflects a one year crop change in fields A2, D, and E. These fields are currently in fescue hay. These fields have been changed to millet hay for the spring and summer of 2013. The purpose of this change is to allow the opportunity to make some grading and drainage improvements to these fields this spring prior to planting the millet. As part of these improvements these fields will be disked prior to planning the millet hay. In the fall of 2013 the fields will be replanted in fescue hay. In order to balance nutrient application

opportunities on this site in during these field improvements field G1 will remain in bermuda hay.

Soil Test Summary

Tract	Field	Acre	Date	P2O5	K2O	Lab	Soil pH	Lime Date	rec. lime tons/Ac
1801	A1	44	2011-Fa	VH (181.5 P lbs/acre)	VH (1366 K lbs/acre)	Virginia Tech	7.7		
1801	A2	44	2011-Fa	VH (179 P lbs/acre)	VH (1223.5 K lbs/acre)	Virginia Tech	7.6		
1801	D	4	2011-Fa	H (66 P lbs/acre)	VH (829 K lbs/acre)	Virginia Tech	7.7		
1801	E	7	2011-Fa	H (57 P lbs/acre)	VH (770 K lbs/acre)	Virginia Tech	7.6		
1801	F	9	2011-Fa	H+ (101 P lbs/acre)	VH (1338 K lbs/acre)	Virginia Tech	7.8		
1801	G1	37	2011-Fa	VH (234 P lbs/acre)	VH (1599 K lbs/acre)	Virginia Tech	8.2		
1801	G2	26	2011-Fa	VH (143 P lbs/acre)	VH (1071 K lbs/acre)	Virginia Tech	6.9		
1801	H	10	2011-Fa	H (82 P lbs/acre)	VH (1289 K lbs/acre)	Virginia Tech	7.4		

Manure Production Summary

Manure Name: Swine Effluent

Animal Summary
Swine: 21000

Manure Storage Capacity: 11599.9 kgals

Manure Analysis:
TKN: 1.67
P2O5: .5
NH4: 1.25
K2O: 4.83

Plant Available Nutrients:
Immediate Incorporation:
1.34 lbs N
.50 lbs P2O5
4.83 lbs K2O
Surface Applied:
.77 lbs N
.50 lbs P2O5
4.83 lbs K2O
Residual N:
yr 1: .05 lbs
yr 2: .02 lbs
yr 3: .01 lbs

Manure Production

Dec-Feb	9334
Mar-May	9334
Jun-Aug	9334
Sep-Nov	9334

Total Produced: 37336
Manure Sold/yr: 0
Manure purch./yr: 0

Liquid Manure Production Details

production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (# confined)[animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Swine	100(21000)	125.0	7.4	2.0	34448.4

Net Precipitation Excess

NPE [kgal/yr] = {precip (44.[in/yr]) - evap (40.[in/yr])} * pit/lagoon factor (0.9) * surface area (579125.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 2887.9[kgal/yr]

Field Productivities for Major Crops

Tract Name	Tract/ Field	Field Name	Acres	Predominant Soil Series	Corn	Small Grain	Alfalfa	Grass Hay	Environmental Warnings
1801	1217/1	A1	44	Yemassee	V	V	Not Suited	Not Suited	
	1217/1	A2	44	Yemassee	V	V	Not Suited	Not Suited	
	1217/5	D	4	Slagle	IIb	I	III	I	
	1217/6	E	7	Slagle	IVa	III	III	IV	
	1217/1	F	9	Slagle	IIb	I	III	I	
	1217/11	G1	37	Slagle	IIIb	II	III	III	
	1217/11	G2	26	Slagle	IVa	III	III	III	
	1217/10	H	10	Yemassee	V	V	Not Suited	Not Suited	

Yield Range

Field Productivity Group	Corn Grain Bu/Acre	Barley/Intensive Wheat Bu/Acre	Std. Wheat Bu/Acre	Alfalfa Tons/Acre	Grass/Hay Tons/Acre
I	>170	>80	>64	>6	>4.0
II	150-170	70-80	56-64	4-6	3.5-4.0
III	130-150	60-70	48-56	<4	3.0-3.5
IV	100-130	50-60	40-48	NA	<3.0
V	<100	<50	<40	NA	NA

Farm Summary Report

Plan: **New Plan** **Summer, 2012 - Summer, 2015**

Farm Name: **Murphy Brown LLC - Farms 13 and 14**
Location: Sussex
Specialist: R.O. Britt
N-based Acres: 179.8
P-based Acres: 0.0

Tract Name: **1801**
FSA Number: 1217
Location: Sussex

Field Name: **A1**
Total Acres: 44.25 Usable Acres: 44.25
FSA Number: 1
Tract: 1801
Location: Sussex
Slope Class: A Hydrologic Group: C

Riparian buffer width: 500 ft
Distance to stream: 500 ft

Conservation Practices:
Conservation tillage (>30% residue)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 24.49

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.7 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	7.3	H+(106 P lbs/acre)	VH(843 K lbs/acre)	Virginia Tech
Fa-2011	7.7	VH(181.5 P lbs/acre)	VH(1366 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	33A	Myatt Yemassee

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	80.0 bushel(s)	Sorghum (grain) - No Till
2012-Fa	0.0	Rye (cover) - No Till
2013-Sp	80.0 bushel(s)	Sorghum (grain) - No Till
2013-Fa	0.0	Rye (cover) - No Till
2014-Sp	80.0 bushel(s)	Corn (grain) - No Till
2014-Fa	24.0 bushel(s)	Wheat (grain) - No Till
2015-Su	80.0 bushel(s)	Sorghum (grain) - No Till

Field Name: **A2**

Total Acres:	44.25	Usable Acres:	44.25
FSA Number:	1		
Tract:	1801		
Location:		Sussex	
Slope Class:	A	Hydrologic Group:	C

Riparian buffer width: 300 ft
Distance to stream: 300 ft

Conservation Practices:
Conservation tillage (>30% residue)
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 23.44

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.11 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	6.7	VH(128 P lbs/acre)	VH(1037 K lbs/acre)	Virginia Tech
Fa-2011	7.6	VH(179 P lbs/acre)	VH(1223.5 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	33A	Myatt Yemassee

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	3.5 * tons	Fescue grass (hay), maint. - No Till
2013-Sp	3.5 * tons	Sorghum-sudan, millet, sudan (hay) - Tilled
2013-Fa	1.0 tons	Fescue grass (hay), estab. - Tilled
2014-Sp	3.5 * tons	Fescue grass (hay), maint. - No Till
2015-Sp	3.5 * tons	Fescue grass (hay), maint. - No Till

Field Name: **D**
Total Acres: 3.50 Usable Acres: 3.50
FSA Number: 5
Tract: 1801
Location: Sussex
Slope Class: A Hydrologic Group: C

Riparian buffer width: 100 ft
Distance to stream: 100 ft

Conservation Practices:
Conservation tillage (>30% residue)
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 19.68

%slope: 0.0	Slope Len: 0.	R factor: 0.0	K factor: 0.0
T factor: 0.0	P factor: 1.0	Cmax: 0.000	Erosion: 0.13 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	6.9	M(28 P lbs/acre)	VH(890 K lbs/acre)	Virginia Tech
Fa-2011	7.7	H(66 P lbs/acre)	VH(829 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	25A	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	5.8 * tons	Fescue grass (hay), maint. - No Till
2013-Sp	4.5 tons	Sorghum-sudan, millet, sudan (hay) - Tilled
2013-Fa	4.5 tons	Fescue grass (hay), estab. - Tilled
2014-Sp	5.8 * tons	Fescue grass (hay), maint. - No Till
2015-Sp	5.8 * tons	Fescue grass (hay), maint. - No Till

Field Name: **E**

Total Acres:	6.59	Usable Acres:	6.59
FSA Number:	6		
Tract:	1801		
Location:		Sussex	
Slope Class:	A	Hydrologic Group:	C

Riparian buffer width: 600 ft

Distance to stream: 600 ft

Conservation Practices:
Conservation tillage (>30% residue)
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 17.01

%slope: 0.0	Slope Len: 0.	R factor: 0.0	K factor: 0.0
T factor: 0.0	P factor: 1.0	Cmax: 0.000	Erosion: 0.12 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	7.1	H(79 P lbs/acre)	VH(1125 K lbs/acre)	Virginia Tech
Fa-2011	7.6	H(57 P lbs/acre)	VH(770 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
50	25A	Slagle
50	33A	Myatt Yemassee

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	5.4 * tons	Fescue grass (hay), maint. - No Till
2013-Sp	2.3 tons	Sorghum-sudan, millet, sudan (hay) - Tilled
2013-Fa	2.8 tons	Fescue grass (hay), estab. - Tilled
2014-Sp	5.4 * tons	Fescue grass (hay), maint. - No Till
2015-Sp	5.4 * tons	Fescue grass (hay), maint. - No Till

Field Name: **F**
Total Acres: 8.53 Usable Acres: 8.53
FSA Number: 1

Tract: 1801
Location: Sussex
Slope Class: A Hydrologic Group: C

Riparian buffer width: 100 ft
Distance to stream: 500 ft

Conservation Practices:
Conservation tillage (>30% residue)
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 20.74

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.13 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	6.4	H-(39 P lbs/acre)	VH(912 K lbs/acre)	Virginia Tech
Fa-2011	7.8	H+(101 P lbs/acre)	VH(1338 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	25A	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	5.0 * tons	Fescue grass (hay), maint. - No Till
2013-Sp	5.0 * tons	Fescue grass (hay), maint. - No Till
2014-Sp	5.0 * tons	Fescue grass (hay), maint. - No Till
2015-Sp	5.0 * tons	Fescue grass (hay), maint. - No Till

Field Name: **G1**

Total Acres:	36.96	Usable Acres:	36.96
FSA Number:	11		
Tract:	1801		
Location:		Sussex	
Slope Class:	A	Hydrologic Group:	C

Riparian buffer width: 100 ft
Distance to stream: 100 ft

Conservation Practices:
Conservation tillage (>30% residue)
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 28.76

%slope: 0.0	Slope Len: 0.	R factor: 0.0	K factor: 0.0
T factor: 0.0	P factor: 1.0	Cmax: 0.000	Erosion: 0.6 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	7.6	VH(148 P lbs/acre)	VH(1081 K lbs/acre)	Virginia Tech
Fa-2011	8.2	VH(234 P lbs/acre)	VH(1599 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
70	25A	Slagle
30	33A	Myatt Yemassee

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	4.6 tons	Bermudagrass (hay), maint. - No Till
2013-Sp	4.6 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	1.8 * ton	Barley (silage) - Tilled
2014-Sp	4.6 tons	Bermudagrass (hay), maint. - Tilled
2014-Fa	1.8 * ton	Barley (silage) - No Till
2015-Sp	4.6 tons	Bermudagrass (hay), maint. - No Till

Field Name: **G2**

Total Acres:	25.96	Usable Acres:	25.96
FSA Number:	11		
Tract:	1801		
Location:		Sussex	
Slope Class:	A	Hydrologic Group:	C

Riparian buffer width: 400 ft
Distance to stream: 400 ft

Conservation Practices:
Conservation tillage (>30% residue)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 19.02

%slope: 0.0	Slope Len: 0.	R factor: 0.0	K factor: 0.0
T factor: 0.0	P factor: 1.0	Cmax: 0.000	Erosion: 1.14 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	7.2	H-(55 P lbs/acre)	VH(933 K lbs/acre)	Virginia Tech
Fa-2011	6.9	VH(143 P lbs/acre)	VH(1071 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES

40	33A	Myatt Yemassee
60	25A	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	98.0 bushel(s)	Sorghum (grain) - No Till
2012-Fa	0.0	Rye (cover) - No Till
2013-Sp	122.0 bushel(s)	Corn (grain) - No Till
2013-Fa	48.0 bushel(s)	Wheat (grain) - No Till
2014-Su	98.0 bushel(s)	Sorghum (grain) - No Till
2014-Fa	0.0	Rye (cover) - No Till
2015-Sp	122.0 bushel(s)	Corn (grain) - No Till

Field Name: **H**

Total Acres:	9.80	Usable Acres:	9.80
FSA Number:	10		
Tract:	1801		
Location:		Sussex	
Slope Class:	A	Hydrologic Group:	C

Riparian buffer width: 100 ft
Distance to stream: 100 ft

Conservation Practices:
Conservation tillage (>30% residue)
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calulation
P-Index value = 34.5

%slope: 0.0	Slope Len: 0.	R factor: 0.0	K factor: 0.0
T factor: 0.0	P factor: 1.0	Cmax: 0.000	Erosion: 1.81 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2008	7.4	H(79 P lbs/acre)	VH(828 K lbs/acre)	Virginia Tech
Fa-2011	7.4	H(82 P lbs/acre)	VH(1289 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	33A	Myatt Yemassee

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Su	3.4 * tons	Bermudagrass (hay), maint. - No Till
2012-Fa	2.0 * ton	Barley (silage) - No Till
2013-Su	3.4 * tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * ton	Barley (silage) - No Till
2014-Su	3.4 * tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * ton	Barley (silage) - No Till
2015-Su	3.4 * tons	Bermudagrass (hay), maint. - No Till

Tract Name: **Default Tract**
FSA Number: 0
Location: Sussex

Application Summary Report

2012: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	A1	44.3	107.0k Swine(Su)				
	G2	26.0	119.0k Swine(Su)				

2012: Fescue grass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	A2	44.3	191.0k Swine(Su)				
	D	3.5	287.0k Swine(Su)				
	E	6.6	191.0k Swine(Su)				
	F	8.5	287.0k Swine(Su)				

2012: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G1	37.0	323.0k Swine(Su)				
	H	9.8	281.0k Swine(Su)				

2012: Barley (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	H	9.8	83.0k Swine(Fa)				

2013: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)

1801	A1	44.3	101.0k Swine(Sp)

2013: Sorghum-sudan, millet, sudan (hay)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	A2	44.3	100.0k Swine(Sp) 80.1k Swine(Su)				
	D	3.5	87.1k Swine(Sp) 87.2k Swine(Su)				
	E	6.6	90.0k Swine(Sp) 90.0k Swine(Su)				

2013: Fescue grass (hay), estab.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	D	3.5	47.6k Swine(Fa)				
	E	6.6	47.8k Swine(Fa)				

2013: Fescue grass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	F	8.5	270.0k Swine(Sp)				

2013: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G1	37.0	303.8k Swine(Sp)				
	H	9.8	281.0k Swine(Su)				

2013: Barley (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G1	37.0	41.6k Swine(Fa) 48.3k Swine(Wi)				
	H	9.8	83.0k Swine(Fa)				

2013: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G2	26.0	136.0k Swine(Sp)				

2013: Wheat (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G2	26.0	102.0k Swine(Fa)				

2014: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	A1	44.3	89.0k Swine(Sp)				

2014: Wheat (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	A1	44.3	105.0k Swine(Fa)				

2014: Fescue grass (hay), maint.

Tract	Field	Acres	Manure Rate and Type	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)

			(Season)				
1801	A2	44.3	175.0k Swine(Sp)				
	D	3.5	263.0k Swine(Sp)				
	E	6.6	175.0k Swine(Sp)				
	F	8.5	263.0k Swine(Sp)				

2014: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G1	37.0	119.0k Swine(Su)				
	H	9.8	281.0k Swine(Su)				

2014: Barley (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G1	37.0	41.6k Swine(Fa) 48.3k Swine(Wi)				
	H	9.8	83.0k Swine(Fa)				

2014: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G2	26.0	119.0k Swine(Su)				

2015: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	A1	44.3	107.0k Swine(Su)				

2015: Fescue grass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	A2	44.3	174.0k Swine(Sp)				
	D	3.5	261.0k Swine(Sp)				
	E	6.6	174.0k Swine(Sp)				
	F	8.5	261.0k Swine(Sp)				

2015: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G1	37.0	146.3k Swine(Sp) 146.4k Swine(Su)				
	H	9.8	281.0k Swine(Su)				

2015: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1801	G2	26.0	129.0k Swine(Sp)				

Manure Spreading Summary

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2012Su	Swine Effluent	107.0 kgals	1801	A1	44	Sorghum (grain)	4735 kgals	4735 kgals
		191.0 kgals	1801	A2	44	Fescue grass (hay), maint	8452 kgals	13187 kgals
		287.0 kgals	1801	D	4	Fescue grass (hay), maint	1005 kgals	14191 kgals
		191.0 kgals	1801	E	7	Fescue grass (hay), maint	1259 kgals	15450 kgals
		287.0 kgals	1801	F	9	Fescue grass (hay), maint	2448 kgals	17898 kgals
		323.0 kgals	1801	G1	37	Bermudagrass (hay), maint	11938 kgals	29836 kgals
		119.0 kgals	1801	G2	26	Sorghum (grain)	3089 kgals	32925 kgals
		281.0 kgals	1801	H	10	Bermudagrass (hay), maint	2754 kgals	35679 kgals
2012Fa	Swine Effluent	83.0 kgals	1801	H	10	Barley (silage)	813 kgals	813 kgals

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2013Sp	Swine Effluent	101.0 kgals	1801	A1	44	Sorghum (grain)	4469 kgals	4469 kgals
		100.0 kgals	1801	A2	44	Sorghum-sudan, millet, su	4425 kgals	8894 kgals
		87.1 kgals	1801	D	4	Sorghum-sudan, millet, su	305 kgals	9199 kgals
		90.0 kgals	1801	E	7	Sorghum-sudan, millet, su	593 kgals	9792 kgals
		270.0 kgals	1801	F	9	Fescue grass (hay), maint	2303 kgals	12095 kgals
		303.8 kgals	1801	G1	37	Bermudagrass (hay), maint	11228 kgals	23324 kgals
		136.0 kgals	1801	G2	26	Corn (grain)	3531 kgals	26854 kgals
2013Su	Swine Effluent	80.1 kgals	1801	A2	44	Sorghum-sudan, millet, su	3544 kgals	3544 kgals
		87.2 kgals	1801	D	4	Sorghum-sudan, millet, su	305 kgals	3849 kgals
		90.0 kgals	1801	E	7	Sorghum-sudan, millet, su	593 kgals	4442 kgals
		281.0 kgals	1801	H	10	Bermudagrass (hay), maint	2754 kgals	7196 kgals
2013Fa	Swine Effluent	47.6 kgals	1801	D	4	Fescue grass (hay), estab	167 kgals	167 kgals
		47.8 kgals	1801	E	7	Fescue grass (hay), estab	315 kgals	482 kgals
		41.6 kgals	1801	G1	37	Barley (silage)	1538 kgals	2019 kgals
		102.0 kgals	1801	G2	26	Wheat (grain)	2648 kgals	4667 kgals
		83.0 kgals	1801	H	10	Barley (silage)	813 kgals	5480 kgals
2013Wi	Swine Effluent	48.3 kgals	1801	G1	37	Barley (silage)	1785 kgals	1785 kgals

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2014Sp	Swine Effluent	89.0 kgals	1801	A1	44	Corn (grain)	3938 kgals	3938 kgals
		175.0 kgals	1801	A2	44	Fescue grass (hay), maint	7744 kgals	11682 kgals
		263.0 kgals	1801	D	4	Fescue grass (hay), maint	921 kgals	12603 kgals
		175.0 kgals	1801	E	7	Fescue grass (hay), maint	1153 kgals	13756 kgals
		263.0 kgals	1801	F	9	Fescue grass (hay), maint	2243 kgals	15999 kgals
2014Fa	Swine Effluent	105.0 kgals	1801	A1	44	Wheat (grain)	4646 kgals	4646 kgals
		41.6 kgals	1801	G1	37	Barley (silage)	1538 kgals	6184 kgals
		83.0 kgals	1801	H	10	Barley (silage)	813 kgals	6997 kgals
2014Su	Swine Effluent	119.0 kgals	1801	G1	37	Bermudagrass (hay), maint	4398 kgals	4398 kgals
		119.0 kgals	1801	G2	26	Sorghum (grain)	3089 kgals	7487 kgals
		281.0 kgals	1801	H	10	Bermudagrass (hay), maint	2754 kgals	10241 kgals

2014Wi	Swine Effluent	48.3 kgals	1801	G1	37	Barley (silage)	1785 kgals	1785 kgals

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2015Su	Swine Effluent	107.0 kgals	1801	A1	44	Sorghum (grain)	4735 kgals	4735 kgals
		146.4 kgals	1801	G1	37	Bermudagrass (hay), maint	5411 kgals	10146 kgals
		281.0 kgals	1801	H	10	Bermudagrass (hay), maint	2754 kgals	12899 kgals
2015Sp	Swine Effluent	174.0 kgals	1801	A2	44	Fescue grass (hay), maint	7700 kgals	7700 kgals
		261.0 kgals	1801	D	4	Fescue grass (hay), maint	914 kgals	8613 kgals
		174.0 kgals	1801	E	7	Fescue grass (hay), maint	1147 kgals	9760 kgals
		261.0 kgals	1801	F	9	Fescue grass (hay), maint	2226 kgals	11986 kgals
		146.3 kgals	1801	G1	37	Bermudagrass (hay), maint	5407 kgals	17393 kgals
		129.0 kgals	1801	G2	26	Corn (grain)	3349 kgals	20742 kgals